

Aldehydic products from lipidperoxidation:  
Their isolation and identification

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Aldehydes produced by lipidperoxidation (liver microsomes, ADP/Fe, NADPH) were analyzed by HPLC and mass spectroscopy. Definitely identified were four n-alkanals ( $C_3$  to  $C_6$ ), six 2-alkenals ( $C_3$  to  $C_9$ ), 4-hydroxy-2-nonenal, 4,5-dihydroxy-2-decenal and free malonaldehyde. Free malonaldehyde was (30 min incubation)  $74 \pm 8$  nmole/mg protein, the total amount of other carbonyls was  $230 \pm 25$  nmole/mg protein.

IRON PORPHYRIN CATALYZED ELECTROCHEMICAL OXYGENATION OF HYDROCARBONS

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Iron(III) porphyrin bis-fluoride complexes are readily prepared by addition of excess fluoride salts in non-aqueous media. The bis-fluoride iron(III) complex exhibits an oxidation potential which is 0.3 V less anodic than that of simple five-coordinate iron porphyrin complexes. The electrochemically generated "iron(IV)" intermediate reacts rapidly with methylene chloride solvent. Preparative-scale electrolysis of iron(III) porphyrin bis-fluoride solutions containing alkenes and trace amounts of water yield the respective epoxide, alcohol, and ketone.

Protection against the mutagenicity of oxygen free radicals by superoxide dismutase and mannitol. Hosni M. Hassan and Carmella S. Moody. Departments of Food Science and Microbiology, North Carolina State University, Raleigh, NC 27650.

Paraquat augmented the toxicity and mutagenicity of oxygen free radicals in Salmonella typhimurium strains TA100 and TA98. Intracellular superoxide dismutase protected the cells against this toxic and mutagenic effect of paraquat. Known hydroxyl radical scavengers: thiourea, dimethyl thiourea, dimethyl sulfoxide, ethanol and mannitol were tested for their effects on the mutagenicity of paraquat in strain TA100. Only mannitol offered significant protection.